

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1-142 (canceled)

Claim 143 (currently amended). A functional engineered fluorescent protein whose amino acid sequence is at least 85% substantially identical to the amino acid sequence of *Aequorea* green fluorescent protein (SEQ ID NO:2) and which differs at least from SEQ ID NO:2 by

- i) comprising the substitutions at T203Y; S65G; S72A; V68L; and H148Q or H148G and
- ii) comprising at least one substitution selected from the group consisting of Y66H, F, or W; Q69N or K; R96K; Q183N or K; and the substitutions listed in Table F, wherein said functional engineered fluorescent protein has a different fluorescent property and improved anion binding as compared to *Aequorea* green fluorescent protein.

Claim 144 (currently amended). A functional engineered fluorescent protein whose amino acid sequence is at least 85% substantially identical to the amino acid sequence of *Aequorea* green fluorescent protein (SEQ ID NO:2) and which at least differs from SEQ ID NO:2 by

- i) comprising the substitutions at T203Y; S65G; S72A; V68L; and H148R, H148G, H148Q, H148A, H148N, or H148K;
- ii) comprising at least one substitution selected from the group consisting of Y66H, F, or W; Q69N or K; R96K; Q183N or K; and the substitutions listed in Table F, wherein said functional engineered fluorescent protein has a different

fluorescent property and improved anion binding as compared to *Aequorea* green fluorescent protein.

Claim 145 (previously presented). The functional engineered fluorescent protein of claim 143, wherein said substitution at position H148 is H148Q.

Claim 146 (previously presented). The functional engineered fluorescent protein of claim 143, wherein said substitution at position H148 is H148G.

Claim 147 (canceled).

Claim 148 (previously presented). The functional engineered fluorescent protein of claim 143, wherein said functional engineered fluorescent protein comprises a substitution at position V150.

Claim 149 (previously presented). The functional engineered fluorescent protein of claim 148, wherein said substitution at position V150 is selected from the group consisting of Q, S, T and N.

Claim 150 (previously presented). The functional engineered fluorescent protein of claim 143, wherein said functional engineered fluorescent protein comprises a substitution at position V163.

Claim 151 (previously presented). The functional engineered fluorescent protein of claim 150, wherein said substitution at position V163 is selected from the group consisting of Q, S, T and N.

Claim 152 (previously presented). The functional engineered fluorescent protein of claim 143, wherein said functional engineered fluorescent protein comprises a substitution at position Q69.

Claim 153 (previously presented). The functional engineered fluorescent protein of claim 152, wherein said substitution at position Q69 is selected from the group consisting of N, and K.

Claims 154-187 (canceled).

Claim 188 (currently amended). The functional engineered fluorescent protein of claim [[1]] 144, wherein the amino acid sequence of the protein substantially identical is at least [[85%]] 90% identical to the amino acid sequence of SEQ ID NO:2.

Claim 189 (currently amended). The functional engineered fluorescent protein of claim [[1]] 143, wherein the amino acid sequence of the protein substantially identical is at least 90% identical to the amino acid sequence of SEQ ID NO:2.

Claim 190 (currently amended). The functional engineered fluorescent protein of claim [[1]] 143, wherein the amino acid sequence of the protein substantially identical is at least 95% identical to the amino acid sequence of SEQ ID NO:2.

Claim 191 (new). A functional engineered fluorescent protein whose amino acid sequence is at least 85% identical to the amino acid sequence of *Aequorea* green fluorescent protein (SEQ ID NO:2) and which differs at least from SEQ ID NO:2 by the substitutions T203Y and H148Q.

Claim 192 (new). The functional engineered fluorescent protein of claim 191 wherein the protein is at least 90% identical to the amino acid sequence of SEQ ID NO:2.

Appl. No. 10/620,099
Amdt. dated September 6, 2007
Reply to Office Action of March 6, 2007

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Claim 193 (new). The functional engineered fluorescent protein of claim 191, wherein the protein is at least 95% identical to the amino acid sequence or SEQ ID NO:2.